



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

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www.miamidade.gov/economy

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: JM TPO Single Ply Roof Systems over Steel Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No. 14-0618.04 and consists of pages 1 through 41.
The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 14-0627.08
Expiration Date: 12/24/18
Approval Date: 10/27/16
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply
Materials: TPO
Deck Type: Steel
Maximum Design Pressure: -150 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
JM TPO 45	45 mils thick	ASTM D6878 TAS 131	Polyester reinforced Thermoplastic Olefin single ply membrane.
JM TPO 60	60 mils thick	ASTM D6878 TAS 131	Polyester reinforced Thermoplastic Olefin single ply membrane.
JM TPO 80	80 mils thick	ASTM D6878 TAS 131	Polyester reinforced Thermoplastic Olefin single ply membrane.
JM TPO FB 115	60 mils thick	ASTM D6878 TAS 131	Polyester reinforced, fleece backed, Thermoplastic Olefin single ply membrane.
JM TPO FB 135	80 mils thick	ASTM D6878 TAS 131	Polyester reinforced, fleece backed, Thermoplastic Olefin single ply membrane.
JM Urethane Insulation Adhesive	1 gal.	Proprietary	A one part, cold-applied adhesive
JM Two Part Urethane Insulation Adhesive	Various	Proprietary	A two-component, cold-applied adhesive
One-Step Foamable Adhesive	N/A	Proprietary	Two part urethane low rise foam insulation
JM Green Two Part Urethane Insulation Adhesive	Various	Proprietary	A two-component, cold-applied adhesive
JM Roofing System Urethane Adhesive	Various	Proprietary	A two-component, cold-applied adhesive
JM TPO Membrane Adhesive (Solvent-Based)	5 gal.	Proprietary	A synthetic rubber-based adhesive used on single ply roofing membranes.
JM TPO Membrane Adhesive (Low VOC)	5 gal.	Proprietary	A synthetic rubber-based adhesive used with fully or partially adhered TPO roofing membrane systems.
JM TPO Low VOC Membrane Adhesive	5 gal.	Proprietary	A synthetic rubber-based adhesive used to adhere TPO roofing membrane systems.



JM TPO LVOC Membrane Adhesive	5 gal.	Proprietary	A synthetic rubber-based adhesive used to adhere TPO roofing membrane systems.
JM TPO Membrane Adhesive (Water-Based)	5 gal.	Proprietary	A polymeric, wet laying (single side application), low-VOC adhesive.
JM TPO Water Based Membrane Adhesive	5 gal.	Proprietary	One part, water based adhesive used to adhered TPO roofing membrane systems
JM TPO Membrane Primer	3 gal.	Proprietary	A synthetic polymer-based primer.
JM Single Ply Membrane Primer (Low VOC)	3 gal.	Proprietary	A low VOC, synthetic polymer-based primer.
JM TPO Walkpad	5/32" x 30" x 50'	Proprietary	Textured walkway protection membrane
JM TPO Detail Membrane	24" x 50'	TAS 131	Non-reinforced membrane for wrapping pipe flashings and vertical stacks and for waterproofing joints of JM TPO Coated Metal.
JM TPO Universal Corners	Various	TAS 131	Pre-molded for easy installation of curb flashings or corner flashings on JM TPO-Coated Metal or JM TPO Membrane.
JM TPO T-Joint Patch	4"	TAS 131	Non-reinforced membrane patch for covering t-joints and/or discs and fasteners.
JM TPO Pipe Boots	1" x 6"	TAS 131	Cone-shaped stepping boots designed for flashing pipe penetrations.
JM TPO Peel & Stick Pipe Boots	1" x 6"	TAS 131	Cone-shaped stepping boots designed for flashing pipe penetrations.
JM TPO Split Pipe Boot	Various	TAS 131	Cone shaped stepping boots designed for flashing pipe penetrations.
JM Square Pipe Boots	2" x 8" & 4" x 8"	TAS 131	Square shaped stepping boots designed for flashing pipe penetrations.
JM TPO Cover Tape	6" x 100'	TAS 131	30 mil membrane with a factory-applied peel and stick adhesive tape used to strip in metal flanges.
JM TPO 10" Cover Tape	10" x 100'	TAS 131	30 mil membrane with a factory-applied peel and stick adhesive tape used to strip in metal flanges.
JM TPO Penetration Pocket	7.5" x 6"	TAS 131	Two-piece molded pocket with a rigid vertical wall and preformed flanges.
JM TPO Coated Metal	4' x 10'	TAS 131	JM TPO Membrane laminated onto galvanized steel.
JM TPO Peel & Stick 6" RTS	6" x 100'	TAS 131	45 mil TPO membrane strip with a 3" tape factory laminated along one edge.

JM TPO Peel & Stick 10" RPS	10" x 100'	TAS 131	45 mil TPO membrane strip with a 3" tape factory laminated along one edge.
JM TPO Curb Flashing	18" x 50'	TAS 131	60 mil TPO membrane for flashing curbs and parapet walls.
JM TPO Reinforced Cover Strip	8" x 50'	TAS 131	60 mil TPO membrane strip use as a heat-weldable strip in mechanically fastened systems

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI	Polyisocyanurate insulation	Johns Manville
ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI	Polyisocyanurate insulation with glass reinforced facers	Johns Manville
ENRGY 3 FR, ENRGY 3 FR 25 PSI	Polyisocyanurate insulation with inorganic coated glass reinforced facers; bottom face is premium coated for combustible decks.	Johns Manville
JM SECUROCK Gypsum-Fiber Roof Board	Fiber reinforced coverboard	Johns Manville
Invinsa Roof Board	High-density polyisocyanurate with fiber glass reinforced facers.	Johns Manville
Invinsa FR Roof Board	High-density polyisocyanurate with fiber glass reinforced facers.	Johns Manville
RetroPlus Roof Board	High density perlite cover board	Johns Manville
DensDeck	Silicone treated gypsum	Georgia Pacific Gypsum, LLC

APPROVED FASTENERS:**TABLE 3**

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	UltraFast Fasteners	Insulation and membrane fastener	#12 x 8" max. Length, #3 Phillips head	Johns Manville
2.	UltraFast 3" Round Metal Plates	Insulation Plate	3" diameter	Johns Manville
3.	UltraFast Square Recessed Metal Plate	Insulation Plate	3" square	Johns Manville
4.	High Load Fasteners	Insulation and membrane fastener for steel, wood, or concrete	#15 x 14" max. #3Phillips head	Johns Manville
5.	Extra High Load Fasteners	Insulation and membrane fastener	#21 x 8" max #3 Phillips head	Johns Manville
6.	High Load Plates	Seam plate with reinforcing ribs and eyehooks	2-3/8" round steel plate	Johns Manville
7.	JM TPO RhinoPlate	Insulation Plates	3.15" diameter	Johns Manville
8.	All Purpose Fastener	Insulation and membrane fastener	#14 x 16" max. length; #3 Phillips head	Johns Manville
9.	UltraFast Plastic Plate	Polypropylene plastic plate	3.25" round	Johns Manville
10.	High Load Plus Plate	Seam plate with reinforcing ribs and eyehooks	2-3/4" round steel plates	Johns Manville
11.	Extra High Load Plates	Insulation Plate	3" round	Johns Manville

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
FM Approvals	3032235	FM 4470	06/27/08
	3030259	FM 4470	06/02/08
	3031917	FM 4470	06/20/08
	3030383	FM 4470	05/13/08
	3033700	FM 4470	10/10/08
	3036842	FM 4470	10/02/09
	3036559	FM 4470	10/02/09
	3059030	FM 4470	04/29/16
	3023458	FM 4450	07/18/06
	3056677	FM 4470	02/22/16
	3056303	FM 4470	11/05/15
	3043824	FM 4470	02/29/12
	3037540	FM 4470	10/20/10
	3044716	FM 4470	10/29/12
	3046174	FM 4470	04/03/13
	3051609	FM 4470	08/24/14
	3053026	FM 4470	01/20/15
	3051348	FM 4470	01/02/14
Momentum Technologies, Inc.	RX10A8A	TAS 131	03/29/10
	RX14C8A	TAS 131	03/29/10
	RX10A8B	TAS 131	03/29/10
PRI Construction Materials Technologies LLC	JMC-088-02-01.4	ASTM D1876/TAS 117(B)/ TAS 117(A)/TAS 114(C)	07/01/14
	JMC-180-02-01	Physical Properties	11/11/13
	JMC-183-02-01.1	Physical Properties	12/18/13
	JMC-186-02-01.1	TAS 131	09/19/14
	JMC-186-02-02.1	TAS 131	10/10/14
	JMC-193-02-01	TAS 114 J	04/01/14
	JMC-193-02-01A.1	TAS 114 J	04/2/14
	JMC-209-02-01	TAS 114 J	10/15/14
	JMC-214-02-01	Physical Properties	11/03/14
	JMC-221-02-01	Physical Properties	11/19/14
UL, LLC	R10167	UL 790	11/20/13
Trinity ERD	J33600.08.13	TAS 131	08/09/13
	SC4910.02.14	TAS 114 J	02/10/14
	JM-11190.03.16	TAS 114 J	03/11/16



APPROVED ASSEMBLIES:

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Grade 33 steel

System Type B(1): Base layer of insulation mechanically fastened, optional top layer adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:2 ft ²

Note: Base layer shall be mechanically attached with fasteners and density listed above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 1.5" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-25 lbs./100 ft², JM Urethane Insulation Adhesive, JM Two Part Urethane Insulation Adhesive, JM Roofing Systems Urethane Adhesive or One-Step Foamable Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Grade 33 steel

System Type B(2): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 2.0" thick	1 with 2 or 3, or 4 with 5	1: 2.67 ft ²

Note: Base layer shall be mechanically attached with fasteners and density listed above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
JM SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with JM Two Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive applied in ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. at every rib with one Traxx/5 fasteners (one per flute) over structural supports spaced maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 24" o.c. between supports.

System Type B(3): Base layer of insulation mechanically fastened, optional top layer adhered with approved adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 1.5" thick	1 with 2, 3 or 9	1:1.33 ft ²

Note: Base layer shall be mechanically attached with fasteners and density listed above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with JM Two Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive applied in 3/4" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: JM TPO fully adhered to insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based), JM TPO Membrane Adhesive (Solvent-Based), or JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83-1.10 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM TPO Low VOC Membrane Adhesive applied at a rate of 1.10 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq.

Option #2: JM TPO FB fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.83 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. at every rib with one Traxx/5 fasteners (one per flute) over structural supports spaced maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 24" o.c. between supports.

System Type B(4): Base layer of insulation mechanically fastened, optional top layer adhered with approved adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 2.0" thick	1 with 2 or 3	1:4 ft ²

Note: Base layer shall be mechanically attached with fasteners and density listed above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with JM Two Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive applied in 3/4" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: JM TPO fully adhered to insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based), JM TPO Membrane Adhesive (Solvent-Based), JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83-1.10 gal./sq or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM TPO Low VOC Membrane Adhesive applied at a rate of 1.10 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq.

Option #2: JM TPO FB fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.83 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c.

Maximum Design Pressures: -45 psf. (See General Limitation #7)



Membrane Type: Single ply, TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18 - 22 ga., Grade 33 steel
System Type B(5): Base layer of insulation mechanically attached. Top layer of insulation fully adhered with approved asphalt or adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:2 ft ²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
RetroPlus Roof Board Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with ¾" wide ribbons spaced 12" o.c. of JM Two-Part Urethane Insulation Adhesive or JM Green Two Part Urethane Insulation Adhesive or 0.5-0.75" wide ribbons spaced 12" o.c. of JM Roofing System Urethane Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Membrane fully adhered to the insulation as specified below. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to the insulation with JM TPO Membrane Adhesive (Solvent Based) applied at a rate of 1.67 gal./sq., JM TPO Low VOC Membrane Adhesive applied at a rate of 1.10 gal./sq., JM TPO membranes Adhesive (Low VOC) applied at a rate of 1.67 gal./sq., JM TPO Membrane Adhesive (Water Based) applied at a rate of 1.10 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq.

Option #2: JM TPO FB fully adhered to the insulation with JM TPO Membrane Adhesive (Water Based) applied at a rate of 0.83 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: Single ply, TPO

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga., min. Grade 33, Type B steel deck fastened to supports spaced maximum 6 ft. with two ICH Traxx/5 fasteners and 3/4" diameter washers (two fasteners and washers installed at each bearing attachment point.) The deck side laps are secured with ICH Traxx/1 fasteners spaced maximum 18" o.c.

System Type B(6): Base layer of insulation mechanically attached. Top layer of insulation fully adhered with approved asphalt or adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:1 ft²

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Invinso Roof Board, SECUROCK Gypsum-Fiber roof board Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with 0.5"-0.75" wide ribbons of JM Two-Part Urethane Insulation Adhesive, JM Roofing System Urethane Adhesive or One Step Foamable Adhesive (JM SECUROCK Gypsum-Fiber Roof Board) 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO FB adhered with JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7)

Membrane Type: Single ply, TPO

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga., min. Grade 40, Type B steel deck attached 6" o.c. to supports spaced maximum 6 ft. with 5/8" diameter puddle welds. The deck side laps are secured with Teks/1 fasteners spaced maximum 20" o.c.

System Type B(7): Base layer of insulation mechanically attached. Top layer of insulation fully adhered with approved asphalt or adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:1.45 ft²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Invinsa Roof Board Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with 0.5"-0.75" wide ribbons of JM Two-Part Urethane Insulation Adhesive or JM Roofing System Urethane Adhesive, 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO FB adhered with JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

**Maximum Design
Pressure:** -52.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 3I: Steel, Insulated

Deck Description: Min. 22 ga., Grade 33 steel decking attached to steel supports spaced maximum 6ft. o.c. using two Traxx/5 fasteners and 0.75" OD washers spaced maximum 6" o.c. and with side laps fastened with three Traxx/1 screws spaced evenly between the supports.

System Type C(1): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:1.78 ft ²

Note: All Insulation shall be simultaneously fastened; see above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based) or JM TPO Membrane Adhesive (Low VOC) adhesive applied to both the membrane and substrate for a combined rate of 1.67 gal./sq. or JM TPO Low VOC Membrane Adhesive applied at a rate of 1.10 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. for JM TPO Low VOC Membrane Adhesive. (See General Limitation #7)
-52.5 psf. when using the other membrane adhesives. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga. Grade 33 steel decking attached to steel supports spaced maximum 6ft. o.c. using two Traxx/5 fasteners and 0.75" OD washers spaced maximum 6" o.c. The side laps are fastened with three Traxx/1 screws spaced evenly between the supports.

System Type C(2): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Plywood Minimum 19/32" thick	1 with 2 or 3	1:1.78 ft ²

Note: All Insulation layers shall be simultaneously fastened; see top layer above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based) applied to both the membrane and substrate for a combined rate of 1.67 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -75 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga. Grade 33 steel deck

System Type C(3): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:2 ft ²

Note: Insulation layer shall be mechanically attached with fasteners and density listed above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Membrane: JM TPO fully adhered with JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Grade 33 steel

System Type C(4): All layers of insulation simultaneously fastened; membrane fully adhered.
All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:2 ft ²

Note: Insulation layer shall be mechanically attached with fasteners and density listed above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel decking attached to steel supports spaced maximum 6ft. o.c. using Traxx 5 fasteners spaced maximum 6" o.c. (at the bottom flute) and with side laps fastened with three Traxx 1 screws spaced maximum 18" o.c.

System Type C(5): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Plywood Minimum 19/32" thick	1 with 2 or 3	1:2 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga. Grade 33 steel deck

System Type C(6): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
JM SECUROCK Gypsum-Fiber Roof Board Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
JM SECUROCK Gypsum-Fiber Roof Board Minimum 5/8" thick	1 or 8 with 2	1:4 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5-inch wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. with two Traxx/5 fasteners in supports spaced maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 18" o.c. between supports.

System Type C(7): Top layer of insulation mechanically fastened; membrane adhered to fastener plates.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	4 with 7	1:4 ft ² or secured with top layer
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum 1/4" thick	4 with 7	1:4 ft ²
Plywood Minimum 19/32" thick	4 with 7	1:4 ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	4 with 7	1:4 ft ²

Note: Top layer of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from the plates.

Maximum Design Pressures: -67.5 psf. (See General Limitation #7)



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. at every rib with one Traxx/5 fasteners (one per flute) over structural supports spaced maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 24" o.c. between supports.

System Type C(8): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	1 with 3	1:1.33 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based) or JM TPO Membrane Adhesive (Solvent-Based) or JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83-1.10 gal./sq or JM TPO Low VOC Membrane Adhesive applied at a rate of 1.10 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq.

Option #2: JM TPO FB fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.83 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5" - 0.75" ribbons spaced 12" o.c.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. at every rib with two Traxx/5 fasteners (one per flute) and 3/4" OD washers over structural supports spaced maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 24" o.c. between supports.

System Type C(9): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	1 with 3	1:1 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based) or JM TPO Membrane Adhesive (Solvent-Based) or JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83-1.10 gal./sq. or JM TPO Low VOC Membrane Adhesive applied at a rate of 1.10 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq.

Option #2: JM TPO FB fully adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.83 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive applied in 0.5"-0.75" ribbons spaced 12" o.c.

Maximum Design Pressures: -60 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. with two Traxx/5 fasteners in supports spaced a maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 18" o.c. between supports.

System Type C(10): All layers of insulation simultaneously fastened; membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	4 with 7	See below
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft2
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum 1/4" thick	4 with 7	See below
Plywood Minimum 19/32" thick	4 with 7	See below

Note: Top layer of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO (min. 60 mil) induction welded to the JM TPO RhinoPlates as described below. Side laps shall be a minimum 2.5" wide and sealed with a minimum 1.5" heat weld offset from the plates.

Fastening #1: Insulation shall be mechanically fastened at maximum 6" o.c. in fastener rows spaced a maximum 120" o.c.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #2: Insulation shall be mechanically fastened at a maximum 12" o.c. in fastener rows spaced a maximum 60" o.c.
Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Fastening #3: Insulation shall be mechanically fastened at a maximum 6" o.c. in fastener rows spaced a maximum 60" o.c.
Maximum Design Pressure -105 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 22 ga., Grade 80, type B, steel deck fastened maximum 6" o.c. at every rib with #12 Traxx/5 fastener (one per flute) and 3/4" OD washers over structural supports spaced a maximum 6 ft. o.c. Side laps fastened with #10 Traxx/1 screws spaced maximum 24" o.c. between supports.

System Type C(11): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/2" thick	1 with 3	1:1 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to insulation using JM TPO Water Based Membrane Adhesive applied at a rate of 0.59-0.77 gal./sq.

Option #2: JM TPO FB fully adhered to insulation using JM TPO Water Based Membrane Adhesive applied at a rate of 0.59-0.79 gal./sq.

Maximum Design Pressures: -150 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 22 ga., Grade 33, type B, steel deck fastened maximum 6" o.c. at every rib with two (2) #12 Traxx/5 fasteners at each bearing point over structural supports spaced 6 ft. o.c. Side laps fastened with #10 Traxx/1 screws spaced a maximum 24" o.c. between supports.

System Type C(12): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum 1/2" thick	1 with 3	1:1 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1: JM TPO fully adhered to insulation using JM TPO Water Based Membrane Adhesive applied at a rate of 0.59-0.77 gal./sq.

Option #2: JM TPO FB fully adhered to insulation using JM TPO Water Based Membrane Adhesive applied at a rate of 0.59-0.79 gal./sq.

Maximum Design Pressures: -82.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 22 ga., Grade 33 type B steel deck fastened maximum 6" o.c. with two #12-24 HWH screws and 3/4" O.D. washers into supports spaced maximum 6 ft. o.c.

System Type C(13): Top layer of insulation mechanically fastened; membrane adhered to fastener plates.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 0.5" thick	N/A	N/A
Top Insulation Layer:	Insulation Fasteners (Table 3)	Fastener Density/ft²
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum 1/4" thick	4 with 7	See Maximum Design Pressure
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1" thick	4 with 7	See Maximum Design Pressure

Note: The minimum total thickness of the insulation layer(s) shall be 1.25". Top layer of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from the plates.

Maximum Design Pressures: -75 psf. at 1:2.67-ft². (See General Limitation #7)
-90 psf. at 1:2.13-ft². (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 22 ga., Grade 33 type B steel deck secured maximum 6" o.c. with minimum 5/8" diameter puddle welds to supports spaced maximum 6 ft. o.c. steel deck side laps fastened with 1/4"-14 x 7/8" HWH screws spaced 24" o.c. between supports.

System Type C(14): Top layer of insulation mechanically fastened; membrane adhered to fastener plates.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum 1/4" thick	4 with 7	1:4 ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1" thick	4 with 7	1:4 ft ²

Note: The minimum total thickness of the insulation layer(s) shall be 1.25". Top layer of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 6" wide and sealed with a minimum 1.5" wide heat weld offset from the plates.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. with #12-24 HWH fasteners in supports spaced a maximum 6 ft. o.c. Side laps fastened with 1/4"-14 x 7/8" HWH screws spaced maximum 24" o.c. between supports.

System Type C(15): All layers of insulation simultaneously fastened; membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum 1/4" thick	4 with 7	See below
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1" thick	4 with 7	See below

Note: The minimum total thickness of the insulation layer(s) shall be 1.25". Top layer of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO (min. 60 mil) induction welded to the JM TPO RhinoPlates as described below. Side laps shall be a minimum 6" wide and sealed with a minimum 1.5" heat weld offset from the plates.

Fastening #1: Insulation shall be mechanically fastened at maximum 12" o.c. in fastener rows spaced a maximum 60" o.c.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #2: Insulation shall be mechanically fastened at a maximum 6" o.c. in fastener rows spaced a maximum 72" o.c.
Maximum Design Pressure -82.5 psf. (See General Limitations # 7)

Fastening #3: Insulation shall be mechanically fastened at a maximum 6" o.c. in fastener rows spaced a maximum 60" o.c.
Maximum Design Pressure -90 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)



Membrane Type: TPO

Deck Type 3I: Steel, Insulated

Deck Description: Min. 22 ga., Grade 33 steel decking attached to steel supports spaced maximum 6ft. o.c. using two #12 HWH Tek 5 fasteners spaced maximum 6" o.c. and with side laps fastened with #10 HWH Tek 3 screws spaced 24" o.c.

System Type C(16): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	1 with 2 or 3	1:1.78 ft ²

Note: All Insulation shall be simultaneously fastened; see above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO adhered to insulation using or JM TPO LVOC Membrane Adhesive applied at a rate of 1.10 gal./sq. with minimum 2.5" wide laps with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -60 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 3I: Steel, Insulated

Deck Description: Min. 22 ga., Grade 33 steel decking attached to steel supports spaced maximum 6ft. o.c. using two #12 HWH Tek 5 fasteners spaced maximum 6" o.c. and with side laps fastened with #12 HWH Tek 1, #10 HWH Tek 3 or #12 HWH Tek 3 screws spaced 24" o.c.

System Type C(17): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 2" thick	1 with 2 or 3	1: 2.67 ft ²

Note: All Insulation shall be simultaneously fastened; see above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based) or JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83 gal./sq. or JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.84 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq. with minimum 2.5" wide laps with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 3I: Steel, Insulated

Deck Description: Min. 22 ga., Grade 33 steel decking attached to steel supports spaced maximum 6ft. o.c. using two #12 HWH Tek 5 fasteners spaced maximum 6" o.c. and with side laps fastened with #12 HWH Tek 1, #10 HWH Tek 3 or #12 HWH Tek 3 screws spaced 24" o.c.

System Type C(18): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 2" thick	1 with 2 or 3	1: 2 ft ²

Note: All Insulation shall be simultaneously fastened; see above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based) or JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83 gal./sq. or JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.84 gal./sq. or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq. with minimum 2.5" wide laps with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -67.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 3I: Steel, Insulated

Deck Description: Min. 22 ga., Grade 80 steel decking attached to steel supports spaced maximum 6ft. o.c. using two #12 HWH Tek 5 fasteners spaced maximum 6" o.c. and with side laps fastened with #12 HWH Tek 1, #10 HWH Tek 3 or #12 HWH Tek 3 screws spaced 24" o.c.

System Type C(19): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 2" thick	1 with 2 or 3	1:1.33 ft ²

Note: All Insulation shall be simultaneously fastened; see above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based) or JM TPO Membrane Adhesive (Low VOC) applied at a rate of 0.83 gal./sq. or JM TPO Membrane Adhesive (Water-Based) or JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal./sq. applied at a rate of 0.84 gal./sq. with minimum 2.5" wide laps with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -105 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 22 ga., (See below for Grade), Type B steel deck fastened maximum 6" o.c. with two (2) #12 HWH Tek 5 screws to steel supports spaced a maximum 6 ft. o.c. Deck side laps are fastened with #12 HWH Tek 1, #10 HWH Tek 3 or #12 HWH Tek 3 screws spaced 24" o.c.

System Type C(20): Top layer of insulation mechanically fastened; membrane adhered to fastener plates.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	4 with 7	See below

Note: All Insulation shall be simultaneously fastened; see above for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO (min. 60 mil) membrane bonded to JM TPO RhinoPlates with side laps having a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from the plates. The RhinoPlates shall be fastened in a grid pattern through the insulation a maximum spacing of 16" o.c. in fastener rows spaced a maximum 24" o.c.

Maximum Design Pressures: -82.5 psf. with Grade 33 steel deck. (See General Limitation #7)
-90 psf. with Grade 80 steel deck. (See General Limitation #7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 80 steel decking attached to steel supports spaced a maximum 6ft. o.c. using Traxx/5 fasteners spaced maximum 6" o.c. (at the bottom flute) and with side laps fastened with three Traxx/1 screws spaced evenly between supports.

System Type D(1): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	N/A	N/A

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below; side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Fastening #1: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Fastening # 2: Membrane is mechanically attached using Extra High Load Fasteners and Extra High Load Plates spaced maximum 12" o.c. within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #3: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. within laps of a maximum 10 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Membrane: (Cont.) Membrane is mechanically attached using Extra High Load Fasteners and Extra High Load Plates spaced maximum 12" o.c. within laps of a maximum 10 ft. wide sheet.

Fastening #4: *Maximum Design Pressure -45 psf. (See General Limitations # 7)*

Fastening # 5: Membrane is mechanically attached using Extra High Load Fasteners and Extra High Load Plates spaced maximum 6" o.c. within laps of a maximum 10 ft. wide sheet.

Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Maximum Design Pressures:

See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel decking attached to steel supports spaced a maximum 6ft. o.c. using Traxx 5 fasteners spaced maximum 6" o.c. (at the bottom flute) and with side laps fastened with three Traxx 1 screws spaced evenly between supports.

System Type D(2): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	N/A	N/A

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Fastening #1: Membrane is mechanically attached using Extra High Load Fasteners and Extra High Load Plates spaced maximum 12" o.c. within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening # 2: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -60 psf. (See General Limitations # 7)

Fastening #3: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. within laps of a maximum 10 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel decking attached to steel supports spaced a maximum 6ft. o.c. using two Traxx 5 fasteners and 3/4" washers at each rib spaced maximum 6" o.c. (at the bottom flute). The washers are low carbon steel flat 0.75" OD with 0.328" diameter hole, and 0.065" thick. The side laps are fastened with three Traxx 1 screws spaced evenly between the supports.

System Type D(3): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2" thick	N/A	N/A

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft2
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. within 6" laps of a maximum 5 ft. wide sheet. Side laps sealed with a minimum 1.5" heat weld.

Maximum Design Pressures: -82.5 psf. (See General Limitations # 7)



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., Grade 33 steel deck fastened maximum 6" o.c. with two Traxx/5 fasteners with 3/4" OD washers in supports spaced maximum 6 ft. o.c. Side laps fastened with Traxx/1 screws spaced maximum 18" o.c. between supports.

System Type D(4): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
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ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
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Minimum 1.5" thick	N/A	N/A
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Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft2
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DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa roof board, Invinsa FR Roof Board		
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Minimum 1/4" thick	N/A	N/A
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Plywood		
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Minimum 19/32" thick	N/A	N/A
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Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO is primed with JM TPO Membrane Primer or JM Single Ply Membrane Primer (Low VOC) and attached to the deck through the insulation with JM TPO Peel & Stick 10" RPS membrane strips mechanically fastened as described below.

JM TPO PEEL & STICK 10" RPS membrane strips are secured to deck through the insulation with High Load Plates and High Load Fasteners in maximum 114" rows, maximum 6" o.c. The fasteners and plates are installed in the center down the middle of the JM TPO Peel & Stick 10" RPS membrane strips. The primed JM TPO membrane is walked in over the self-adhereing JM TPO Peel & Stick 10" RPS RPS membrane strips. The JM TPO membrane side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld offset from the RPS membrane strips.

Maximum Design Pressures: -52.5 psf. (See General Limitations # 7)



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Grade 33 type B steel deck secured with minimum 5/8" diameter puddle welds at each bearing point along supports spaced a maximum 6 ft. o.c.

System Type D(5): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum 1/4" thick	N/A	N/A
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 0.5" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below. 6" wide side laps are sealed with a minimum 1.5-inch wide heat weld

Fastening #1: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. in rows not exceeding 54" within laps of a maximum 5 ft. wide sheet.
Maximum Design Pressure -97.5 psf. (See General Limitations # 7)

Fastening # 2: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. in rows not exceeding 90" within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -75 psf. (See General Limitations # 7)

Fastening #3: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced maximum 6" o.c. in rows not exceeding 114" within laps of a maximum 10 ft. wide sheet.
Maximum Design Pressure -60 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 22 ga., Grade 80 steel decking attached to steel supports spaced a maximum 6ft. o.c. using two Tek 5 fasteners and 3/4" washers at each rib spaced maximum 6" o.c. (at the bottom flute). The side laps are fastened 24" o.c between supports with Tek 1 screws.

System Type D(6): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	N/A	N/A
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft2
JM SECUROCK Gypsum-Fiber Roof Board		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Membrane is mechanically attached using High Load Fasteners and High Load Plus Plates spaced maximum 12" o.c. within 6" laps of a maximum 8 ft. wide sheet. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitations # 7)

STEEL DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 14-0627.08
Expiration Date: 12/24/18
Approval Date: 10/27/16
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